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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,115	11/19/2003	Munenori Fujimura	2003_1592A	6107
513	7590	06/03/2005	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			DINH, TRINH VO	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			2821	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/716,115

Applicant(s)

FUJIMURA ET AL.

Examiner

Trinh Vo Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 24-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/03, 4/04, 6/04, 4/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Applicant's election with traverse of claims 1-23 in the reply filed on 05/16/2005 is acknowledged.

The applicant's argument found unpersuasive because the inventions are clearly distinct to each other due to limitations of "plurality of helical conductors are electrically connected with other" and "chip antenna has a length L, a height h and a width W of $4.0\text{mm} \leq L \leq 40.0\text{mm}$, $0.5\text{mm} \leq H \leq 10.0\text{mm}$, $0.5\text{mm} \leq W \leq 10.0\text{mm}$ " appeared in group 1 are not cited in any claim of groups II, III or IV, limitations of "a main board, a supplemental board" appeared in group II is not cited in any of groups I, III or IV, limitations of "signal converter, a transmitter, receiver and controller" appeared in group III is not found in any of groups I, II or IV, and limitations of "storage unit, a transceiver" appeared in group IV is not cited in any of groups I to group III. Therefore, examination of all groups will present an undue burden because the search for group I is not required for the other groups and vice visa. As the above reason, the restriction requirement is still deemed proper and is therefore made FINAL.

The applicant is advised to cancel non-elected claims in response to the office action.

Claim Objections

2. Claims 13 and 20 are objected to because the following informalities:

In claim 13, line 2, "ar a" should be changed to --area--.

In claim 20, line 2, "ctrically" should be changed to --electrically--.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 4-14, 17-18 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Tate Sumio (JP 2002-319810 of record).

Respecting claim 1, Tate Sumio discloses, in Figs. 1-2, a chip antenna comprising a substrate, a plurality of helical conductors (inductor section and antenna section) provided on the substrate, a pair of helical terminal (5-7) provided on said substrate, wherein one of said plurality of helical conductors is electrically connected to one of the terminals, and another conductor is electrically connected to another of said pair of terminals.

Respecting claims 4-6, Tate Sumio discloses, Figs. 1-4, discloses the conductors being electrically connected with each other (abstract) and formed by a single conductive film, and the conductors and the terminals being formed by a same conductive film.

Respecting claims 7-14, Tate Sumio discloses, in Figs. 1-4, one of the terminals (5) being connected to a power feeding section (abstract) and another one of the terminal being open ended, and one of the conductors (the inductor section) corresponding to a highest frequency and being connected to the one of terminal (5) connected to the power feeding section. Tate Sumio further discloses, in Figs. 1-2, a portion of the substrate having a smaller sectional area than portions of the substrate on which the terminals (5-7) are provided, the substrate a triangular prism, portions of the substrate on which the terminal are located are cubic in shape, and the substrate is rectangular in cross section and has a longer dimension in a lateral direction than a dimension in a vertical direction, a portion of the substrate has a larger cross sectional area than another portion of the substrate and the section is not provided which any of the conductors.

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Respecting claims 17-18, Tate Sumio discloses the conductors being formed by one of trimming said substrate which is covered with a conductive film and winding a wire around said substrate, the antenna being operable to transmit and receive frequencies of at least a GSM band and a DCS-1800 telecommunication band (paragraph [0025]).

Respecting claim 23, Tate Sumio further discloses, in Fig. 5, the chip antenna being mounted on a portable terminal in a location which is a lower side of the portable terminal when the portable terminal is held in a normal use orientation.

5. Claims 1-3, 6 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Okabe (EP 1 239 533 A2 of record).

Respecting claim 1, Okabe discloses, in Figs. 1-2, a chip antenna comprising a substrate (10), a plurality of helical conductors (30, 40) provided on the substrate, a pair of helical terminal (50, 60) provided on said substrate, wherein one of said plurality of helical conductors is electrically connected to one of the terminals, and another conductor is electrically connected to another of said pair of terminals.

Respecting claims 2-3, 6 and 17, Okabe discloses, in Figs. 1-2 and cols 8-9, the conductors being not electrically conductive with respect to each other (Fig. 1) but capacitively coupled (Fig. 2), and the conductors and the terminals being formed by a same conductive film. Okabe further discloses the conductors being formed by one of trimming said substrate which is covered with a conductive film and winding a wire around said substrate,

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 15-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tate Sumio in view of Yoshinomoto et al (US 6,486,853 B2).

Respecting claim 15, Tate Sumio discloses every feature of the claimed invention except a conductive film. Yoshinomoto discloses a protective film (14) covering at least the conductors (12). It would have been obvious to one having skill in the art to provide Tate Sumio's chip antenna with a protective film as taught by Yoshinomoto to cover the conductors in order to protect the antenna from any damage during packing and operating procedures.

Respecting claims 16 and 19, Yoshinomoto discloses the protective film being a an electro-deposited film (col. 7, lines 50+), and the chip antenna having length L, a height H and a width W of $4.0\text{mm} \leq L \leq 40.0\text{mm}$, $0.5\text{mm} \leq H \leq 10.0\text{mm}$, $0.5\text{mm} \leq W \leq 10.0\text{mm}$ (col. 19, lines 15-22).

8. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tate Sumio in view of Tsuyoshi Suesada (EP 0 831 546 A of record).

Respecting claim 20, Tate Sumio discloses every feature of the claimed invention except a crown conductor. Murata discloses, in Figs. 7 and 11, a crown conductor (47 in Fig. 7 or 61 in Fig. 11) electrically connected to the terminal (46) that is open ended. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ Suesada's crown conductor to Tate Sumio's chip antenna in provide the antenna with a broad bandwidth as taught by Suesada (page 6, lines 26-28).

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Respecting claims 21-22, Suesada further discloses the crown conductor having a polygonal shape (Fig. 11 or page 6, lines 20-21), and the crown conductor being connected to apportion of the substrate having a larger cross sectional area than another portion of the substrate.

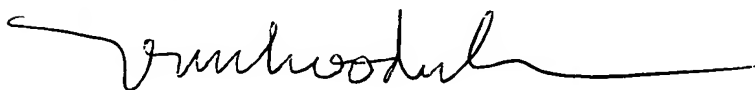
Inquiry

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in dark ink, appearing to read 'Trinh Vo Dinh', with a long horizontal flourish extending to the right.

Trinh Vo Dinh
May 31, 2005